

California HIV/AIDS Update



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Risk Factors for HIV Seropositivity in Women Accessing Publicly-Funded HIV Testing Sites in California

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Since the beginning of the HIV/AIDS epidemic in the United States, AIDS has disproportionately affected men, but recent trends have shown an increase in the proportion of cases among women. Nationally, the proportion of AIDS cases among women rose from 7% of total cases in 1985 to 18% of total cases in 1994.¹ A similar trend is seen in California, where the proportion of total AIDS cases among women increased from 3% in 1985 to 9% in 1994.² AIDS incidence is also increasing more rapidly among women than men, both nationally and in California.^{3,2} In both cases, AIDS among women was primarily associated with injection drug use and heterosexual contact.^{1,4}

Studies of childbearing women nationwide and in California suggest that the seroprevalence rate is stable or declining among these women.^{5,6} Efforts to further reduce the transmission of HIV from

infected pregnant women to their infants (vertical transmission) and the above-cited rise in the number of AIDS cases among women in general have raised questions about HIV risk factors among women. Some women may be unaware of their personal risk factors and HIV infection status. Other women who demonstrate no known risks for HIV may still be infected. Thus, it is important to examine the nature and prevalence of HIV risk factors among women. Careful analysis of HIV testing data may provide a better understanding of the nature of HIV risk for women in California and may lead to more effectively focused HIV risk reduction programs.

This study uses California HIV testing data to calculate the proportion of female clients at publicly-funded test sites who are HIV positive and identify risk factors associated with infection.

Methods

The California Department of Health Services provides public funds for HIV counseling and testing at more than 800 sites throughout the State. These sites include Alternative Test Sites (which provide anonymous testing), family planning clinics, rural and community health clinics, sexually transmitted disease clinics, primary care facilities, detention facilities, mobile testing units, tuberculosis testing sites, and other local health department programs. In June 1994, these sites implemented a new HIV counseling strategy and data collection system. Each client receives an individual assessment of the risk of HIV infection based on a discussion of his or her risk-related behaviors. Based on this assessment, counselors help clients develop strategies to reduce their risks of HIV infection and provide relevant health education information. In addition, counselors record information on 69 demographic and behavioral variables for each client. Each site records these variables in a computerized data base and submits the data monthly to the Office of AIDS for compilation and analysis.

This study uses data collected from 41,444 female clients from July 1, 1994 through December 31, 1994. We examined demographic variables including age, race/ethnicity, county of residence, and number of sex partners in the past year. We selected behavioral variables for analysis using a comprehensive behavior profile developed over ten years and several hundred thousand counseling interviews. We examined behavioral variables including use of several types of non-injection drugs in relation to sexual behaviors; injection drug use (IDU) by the client or the client's partners; various types of sexual behaviors including vaginal, anal, or oral intercourse; and the use of barrier protection for each type of sexual behavior. We also examined occupational exposure to tainted blood, blood transfusions, tattooing, or other potential exposures to HIV.

Studies of risk factors may fail to distinguish adequately between the difference in the risk posed by sexual behaviors that involve barrier protection and those that do not.⁷ To account for this difference, we assessed both the risk of exposure and the risk of transmission. We examined the risk of exposure as the likelihood of encountering an infected partner, based on partner characteristics such as IDU. We assessed the risk of transmission

based on behaviors and mechanisms that would allow or prevent transmission of HIV, such as the use of barrier protection. For example, we combined the

variables "anal receptive sex" and "barrier protection in anal receptive sex" into one composite variable, "unprotected anal receptive sex." Similarly, we created the variables "unprotected vaginal sex," "unprotected oral sex," and "unprotected sex with a known HIV-positive partner." We excluded from the analysis the individual variables that made up the composites to prevent errors due to multicollinearity.

Table 1. Demographic Characteristics of Women Clients at Publicly-Funded HIV Test Sites in California, July-December 1994

	Tested		HIV-Positive	
	N	% (of total)	N	% (of row)
Age (Years)				
11 and under	58	0.1%	1	1.7%
12-19	5,820	14.0%	11	0.2%
20-29	17,385	41.9%	53	0.3%
30-39	10,918	26.3%	64	0.6%
40-49	5,304	12.8%	30	0.6%
50-59	1,435	3.5%	4	0.3%
60 and over	365	0.9%	2	0.5%
Not Specified	159	0.4%	3	1.9%
Race/Ethnicity				
African American	3,752	9.1%	47	1.3%
Native American	275	0.7%	2	0.7%
Not Specified	840	2.0%	4	0.5%
Hispanic/Latina	9,618	23.2%	38	0.4%
Asian	1,960	4.7%	7	0.4%
White	24,187	58.4%	69	0.3%
Other	812	2.0%	1	0.1%
Region of Residence				
Los Angeles County	1,284	3.1%	27	2.1%
Bay Area ^a	3,993	9.6%	38	1.0%
Southern Metropolitan Area ^b	6,765	16.3%	51	0.8%
San Francisco County	2,448	5.9%	11	0.5%
All Other Counties	26,954	65.0%	41	0.2%
TOTAL	41,444	100%	168	0.4%

^aIncludes Alameda, Contra Costa, Marin, Napa, San Mateo, Santa Clara, Solano, and Sonoma Counties

^bIncludes Orange, Riverside, San Bernardino, and San Diego Counties

Table 2. Selected Risk Factors of Women Clients at Publicly-Funded HIV Test Sites in California, July-December 1994

	Tested		HIV-Positive	
	N	% (of total)	N	% (of row)
Unprotected Sex with HIV+ Partner	437	1.1%	38	8.7%
Injection Drug Use (IDU)	2,181	5.3%	43	2.0%
Unprotected Anal Receptive Sex	4,609	11.1%	32	0.7%
Receiving Money for Sex	1,136	2.7%	6	0.5%
IDU Partner	4,739	11.4%	12	0.3%
No Reported Risk	6,266	15.1%	10	0.2%
Multiple Partners	13,069	31.5%	15	0.1%
Partner Who Had Multiple Partners	8,538	20.6%	12	0.1%
Other	469	1.1%	0	0.0%
TOTAL	41,444	100%	168	0.4%

Results

One hundred and sixty-eight women in this sample tested HIV positive (0.4%) and 41,276 tested HIV negative (99.6%). More than half of the women indicated they had previously taken an HIV test (52%), and of these, 45 had previously received a positive result. Thus, in six months of testing, only 123 HIV-positive women were newly identified.

Table 1 displays demographic characteristics of the women in our sample. Clients aged 20-29 years made up about 42% of the sample, followed by 30-39-year-olds (26%), 12-19-year-olds (14%) and 40-49-year-olds (13%). Clients aged 50-59 years made up about 4% of the sample and the remaining 1% were under age 12 or over age 60. They were primarily White (58%), followed by Hispanic/Latina (23%), African American (9%), Asian (5%), Native American (<1%), and "Other" (2%). Another 2% did not state their race/ethnicity.

The largest proportion of our sample (44%) reported only one sex partner in the last year, 25% reported two partners, 12% reported three, 5% reported four, 3% reported five, 1.5% reported six, and almost 4% reported more than six partners. Seven percent of the women reported no sex partners in the past year. While 79% of this sample had no history of a sexually transmitted disease (STD), 11% reported an STD within the past year and about 10% reported an STD more than one year ago.

Table 2 displays selected risk factors for the women in our sample. When asked their primary reason for seeking an HIV test, over 31% of the sample reported having multiple partners (more than one in the last 12 months). Another 21% reported their primary risk as having a partner who had multiple partners. The only other primary risk behavior reported by a substantial portion of women was IDU (5%) or having an IDU partner (11.4%). Fifteen percent of the women reported no risk behaviors associated with HIV infection.

Multivariate logistic regression revealed several variables to be significantly associated with HIV seropositivity ($p < .0001$). Table 3 displays these variables along with odds ratios and 95% confidence

intervals.

Residing in Ventura, Alameda, Los Angeles, Orange, or San Francisco Counties was significantly related to seropositivity.

Compared with Whites, African American race was the only race/ethnicity significantly associated with HIV infection for the women in our sample.

The most important behavioral predictor of HIV seropositivity for the women in this sample was having unprotected sex with a known HIV-positive partner. Women who engaged in this behavior were about 14 times more likely to be infected with HIV than those who did not.

Women who used injection drugs or received money for sex were approximately twice as likely to be HIV infected as those who did not have these risk factors (OR=2.42 and 1.80, respectively). Although the risk of HIV infection for IDUs is believed to result from sharing injection equipment, about 20% of the HIV-positive IDU women reported never sharing needles. About half of the IDU women had known IDU partners, increasing their risk of exposure through sexual contact.

Because there is significant overlap between IDUs and women who receive money for sex, we performed an additional analysis of IDU and non-IDU sex workers. This analysis yielded very similar estimated odds ratios, suggesting that being a sex worker carries its own risk for HIV infection, separate from the risk of IDU.

Finally, women who engaged in unprotected anal receptive sex and women who had an IDU partner were about twice as likely to be HIV infected as women who did not.

Discussion

Some concerns about this analysis are warranted. First, the data are based on self-report. Although debate continues over the validity of such data, demographic and risk behavior data collected over the years correspond significantly to HIV infections in individuals. This correspondence suggests that a large proportion of HIV testing clients are candid about their risks in the counseling sessions.

Second, we based regression findings on a small number of HIV-positive cases. Although multivariate logistic regression is the best statistical procedure when there is a large difference between two outcome categories as in our data,⁸ the validity of the resulting model could be questioned due to the small number of cases with HIV-positive results.

Third, we must interpret the data on unprotected sex with HIV-positive partners with caution. Although this variable does not include women who had unprotected sex with a partner of unknown sero-status, it may include women who became aware of their partner's HIV-positive status only after they had unprotected sex. To create this composite variable, we included only women who indicated that they "never" used condoms for vaginal sex. We assumed that women who had multiple partners and indicated "never" for condom use with vaginal sex were answering for all partners. However, it is possible that women always used barrier protection with their HIV-infected partner and not with other partners. Nonetheless, women who knew at the time of their own HIV test that they had sex with an HIV-positive partner represented 30% of the newly-identified HIV-positive women.

Finally, some may question the representativeness of this self-selected sample of clients accessing publicly-

Table 3. Demographic and Behavioral Risk Variables Significantly Associated with HIV Seropositivity in Multivariate Regression For Women Clients at Publicly-Funded Test Sites in California, July-December 1994

	Odds Ratio	95% Confidence Interval
Demographic Variables		
Ventura County Resident	4.87	2.22 - 10.66
Alameda County Resident	3.55	2.05 - 6.14
Los Angeles County Resident	2.96	1.63 - 5.37
African American Race	2.94	1.98 - 4.35
Orange County Resident	2.85	1.75 - 4.65
San Francisco County Resident	2.48	1.31 - 4.71
Behavioral Risk Variables		
Unprotected Sex with HIV+ Partner	14.34	9.15 - 22.48
Injection Drug Use (IDU)	2.42	1.50 - 3.90
Unprotected Anal Receptive Sex	2.26	1.49 - 3.42
IDU Partner	1.91	1.27 - 2.87
Receiving Money for Sex	1.80	1.06 - 3.07

funded HIV testing sites. We did not analyze the data by site type, which may have been associated with prevalence of HIV or behavioral risk variables. However, the similarities between data from testing sites and AIDS case data⁴ suggest that clients at testing sites are reasonably representative of those Californians affected by the HIV epidemic. Nationally, the Centers for Disease Control and Prevention reported that in 1994, 41% of female AIDS cases reported injection drug use and 38% reported heterosexual contact with a partner at risk for or known to be HIV infected. Of all women with AIDS who were initially reported without risk but who were later reclassified, most had contact with an at-risk partner (66%) or a history of injection drug use (27%).¹ We believe that our sample overrepresents the prevalence of HIV-related risks among California women in general and that generalization beyond California may be problematic.

Despite some shortcomings, this study obtained important findings, especially the low number of newly-identified HIV infections among the women in our sample. Equally important, of the women with newly-identified infections, most had a risk recognizable within the context of a client-centered HIV counseling session.

Not surprisingly, having unprotected sex with a known HIV-positive partner resulted in the highest relative risk of HIV infection. Another notable behavioral finding is the prevalence of anal receptive sex among our sample. Although this behavior is a well-established risk for HIV infection in gay men when practiced without barrier protection, little previous research has examined this risk for women.⁹

The relationship between county of residence and seropositivity may result from an increased likelihood that sex partners selected from these counties are infected with HIV. On the other hand, residence in some counties with relatively high cumulative AIDS incidence rates (e.g. Marin County, p. 36 of this issue) was not associated with seropositivity, while residence in Ventura County (with an AIDS rate near the state median) was associated with seropositivity. This may reflect the sample of women seeking testing. Further research is needed on this issue.

Less clear is the significance of African American race with respect to likelihood of infection. We expected that when the effects of behavioral variables were considered, race/ethnicity would not show significant association with seropositivity, since some risky behaviors are correlated with race/ethnicity.^{10,11} Nonetheless, African American race remained significant in the multivariate analysis. If differential behaviors affecting risk of transmission do not account for infection in this group, then risk of exposure might be responsible (i.e., African American women might have more HIV-positive partners).

One hypothetical scenario of a woman unaware of her risk of exposure to HIV is that of a woman with a bisexual husband who brings HIV infection back to his unsuspecting spouse. Some women in this analysis knew that they had a bisexual male partner. However, these women were not at elevated risk of HIV infection.

Our findings call into question the need for testing low-risk clients following a risk assessment. More HIV prevention is needed in high-risk groups, where a concentration of effort will have better prevention outcomes than more thinly spread efforts.¹² This study suggests that HIV counseling and prevention could be made more efficient and effective by considering the individual risks of each woman accessing testing services, and testing only those women at a high risk for HIV infection.

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Projects to Prevent Perinatal Transmission of HIV in California

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Introduction

A number of developments over the past three years have resulted in increased attention to the issue of perinatal transmission of HIV infection. These developments include the results of clinical trials of zidovudine use in pregnant women, and state and federal legislation concerning HIV counseling and testing of pregnant women.

AIDS Clinical Trial Group Protocol 076

Beginning in 1991, the Pediatric AIDS Clinical Trial Group conducted AIDS Clinical Trial Group Protocol 076 (ACTG 076), a study to determine the effect of zidovudine (AZT) therapy on HIV transmission from pregnant women to their fetuses (vertical transmission). Interim results released by the National Institutes of Health (NIH, a sponsor of the study) in February 1994 demonstrated that AZT therapy reduced vertical transmission by almost two-thirds, from approximately 25% percent among women receiving no intervention to 8.3% among women receiving AZT therapy. This finding prompted the NIH to end the study early and advise prenatal care providers nationwide of the findings. In August 1994 the Centers for Disease Control and Prevention (CDC) issued recommendations on the use of AZT to reduce perinatal transmission of HIV.¹ In 1995, CDC published guidelines for HIV counseling and voluntary testing in pregnant women.²

State Legislation

Effective January 1, 1996, California law (Senate Bill 889, Chapter 813, Statutes of 1995) requires every prenatal care provider to provide HIV counseling and to offer HIV testing to all pregnant women. The HIV counseling must include:

- a description of the modes of HIV transmission;

- a discussion of risk reduction behavior modifications including methods to reduce the risk of perinatal transmission; and
- referral information, if appropriate, to other HIV prevention and psychosocial services, including anonymous and confidential test sites approved by the California Department of Health Services, Office of AIDS (DHS/OA).

Federal Legislation

The federal Ryan White Comprehensive AIDS Resources Emergency (CARE) Act Amendments of 1996 require the Secretary of Health and Human Services to determine by September 1998 if mandatory HIV testing of newborns has become routine practice in the United States. If the Secretary determines that HIV testing has become routine practice, each state must show by March 2000 that it has reached one of three goals:

- a 50% reduction in the rate of new cases of AIDS as a result of perinatal transmission as compared to the rate of cases reported in 1993; or
- HIV testing of at least 95% of women in the state who have received at least two prenatal visits; or
- mandatory HIV testing of all newborns whose mothers have not undergone prenatal HIV testing.

Any state not meeting at least one of these goals must begin mandatory HIV testing of newborns or forfeit its Ryan White CARE Act Funds. California received approximately \$134.5 million in CARE Act funds in federal fiscal year 1996, representing a majority of all federal funding the State received for HIV/AIDS programs.

In order for pregnant women to realize the potential benefits of AZT therapy by making informed decisions about HIV testing, and for prenatal care providers to comply with legal requirements, both groups need appropriate HIV education information. This article describes actions taken by the DHS/OA to develop and disseminate appropriate educational resources and counseling and testing protocols.

Alameda County Prenatal Care Project

In May 1995 the DHS/OA began collaborating with Alameda County on a pilot project to provide prenatal care provider trainings and develop counseling and testing protocols, educational materials, and peer counseling services to help prevent vertical transmission of HIV.

The Alameda County Prenatal Care Project was implemented in four health care clinics: Alta Bates Perinatal Center, Berkeley Primary Care Access Clinic, East Bay Perinatal Center, and Summit Women's Center. A fifth clinic served as a control clinic, allowing a researcher to evaluate the effectiveness of the project. All clinic staff were required to attend two-part provider trainings focusing on both the clinical and counseling aspects of perinatal HIV transmission. The first training increased providers' knowledge of and sensitivity to clinical issues. In this training, providers were introduced to the ACTG 076 study and related CDC clinical guidelines for preventing perinatal transmission of HIV; policy implications of the ACTG 076 study; women's gynecological issues; medical and early intervention options for HIV-infected women; diagnosis, care, and treatment of infants of HIV-infected mothers; and cultural barriers to effective care. The second training was interactive and enhanced providers' counseling and educational skills. This training focused on HIV counseling and education of prenatal patients, with particular emphasis on effective HIV risk assessment, disclosure sessions, and the importance of appropriate referrals.

Working with the DHS/OA HIV Counseling and Testing Section, project staff developed a prenatal care provider counseling and testing protocol. The protocol includes discussions of risk assessment, and HIV positive and negative test result disclosure. In addition, a "physician-specific" counseling protocol was developed. This protocol contains a check list of the most crucial information a woman should receive in order to ensure informed, voluntary consent for HIV testing. The consistent use of these protocols will ensure standardization of HIV counseling services and will enhance the quality of information given to women.

Additional materials were designed to provide pregnant women with risk assessment and transmission information. These materials consisted of a flip chart, an accompanying booklet, and posters, each specifically addressing HIV and pregnancy. These materials discuss the benefits of HIV testing of pregnant women, informing them of treatments available for HIV-infected women and the reduced risk of perinatal transmission afforded by early detection of HIV serostatus.

Project staff also developed a group of peer counselors to provide additional support to newly-diagnosed HIV-infected women. The counselors are HIV-infected mothers and/or women of childbearing age. Prenatal clinics are able to access the services of the peer counselors to enhance HIV post-test counseling services for HIV-infected patients.

Between May 1995 and May 1996, Alameda County and the DHS/OA sponsored an evaluation of the demonstration project, assessing the effectiveness of prenatal provider trainings and the client-centered education, counseling, and testing materials. The evaluation compared responses to pre-intervention and post-intervention questionnaires completed by providers and clients. The evaluation also measured provider and client satisfaction with the four components of the intervention and provider compliance with the protocol. Evaluation results indicated a notable increase among both providers and clients in knowledge about HIV and pregnancy and satisfaction among both providers and clients with the project's educational materials.³

DHS/OA and Health Care Financing Administration Collaboration

In Fall 1996, the DHS/OA met with the federal Public Health Services Agencies, including the Health Resources and Services Administration (which oversees Ryan White CARE Act funds); the Health Care Financing Administration (HCFA); and DHS Medi-Cal, Maternal and Child Health, and Office of Women's Health representatives to develop a joint federal/state initiative to comply with the 1996 CARE Act amendments. The initiative will inform Medicaid-eligible pregnant women and prenatal health care providers throughout California about the benefits of perinatal HIV counseling, testing, and AZT therapy and will expand the Alameda County Prenatal Care Project statewide.

In early 1997, the DHS/OA and HCFA agreed to provide nearly \$1 million (half state funds and half federal funds) over two fiscal years to implement this statewide Perinatal Testing Project. The project will refine the educational materials developed in the Alameda County Prenatal Care Project, develop new educational materials in Spanish, and provide interested prenatal care providers with technical assistance in implementing an HIV education, counseling, and testing program in their clinics or private practices.

In the first phase of the project, all of California's prenatal care providers will receive educational materials to assist their pregnant patients in learning about their risk for contracting HIV and determining if they should be tested for HIV infection. In addition, private and public

health care providers in counties with the highest levels of perinatal HIV transmission and/or women at high risk for contracting HIV will have access to consultants who can provide technical assistance.

During the second phase, the project will provide statewide trainings emphasizing standardization of information provided to perinatal care providers, increase access to technical assistance for all prenatal care providers who request it, develop Spanish-language educational materials for providers serving the Spanish-speaking community, and develop and implement a research instrument to evaluate the effectiveness of the project.

Conclusion

Treatment advances and legislative imperatives have provided an impetus to increase HIV/AIDS counseling and testing outreach to perinatal care providers and pregnant women. In response, the DHS/OA, in collaboration with local, state, and federal government agencies, will strive to reduce vertical transmission of HIV in California through the Perinatal Testing Project.

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HIV/AIDS News...

Women Who Obtain Multiple HIV Tests Have Higher Levels of Risky Behavior

In a recent study of inner-city women at high risk for HIV infection, L. Solomon, et al. found that 75% of study participants had previously been tested for HIV infection and 62% of these women had multiple prior tests. Of the women who had been tested previously, 13% failed to return for the test results. Women participating in particularly high-risk activities such as injection drug use, sex with an injection drug user, or sex with an HIV-positive partner, were significantly more likely to have received a prior test and also more likely to have failed to return for test results.

HIV testing behaviors in a population of inner-city women at high risk for HIV infection. J Acquir Immune Defic Syndr Hum Retrovirol 1996;13:267-272

Promotion of Condoms for HIV/STD Prevention Results in Increased Condom Use Regardless of Contraceptive Method

The Centers for Disease Control and Prevention report that reproductive-aged women who were encouraged to use condoms for prevention of HIV and sexually transmitted diseases (STDs) increased their condom usage regardless of the contraceptive method they used. The study, by J. Douglas, et al., also found that 75% of the women who used hormonal contraceptives at enrollment continued to use them after the condom-promotion intervention and the overall proportion of women protected against pregnancy increased.

Study participants were HIV-negative heterosexual women who reported having vaginal sex in the past 30 days and had come to an STD clinic for a full diagnostic examination.

Of the women who reported using no method or a minimally effective method of contraception at enrollment, 43% reported using condoms at the three month follow-up. An additional 13% reported using another contraceptive method at follow-up.

Consistent condom use among all women in the study increased from 13% at enrollment to 36% at follow-up. Among women using a hormonal method of contraception, consistent condom use increased from 10% to 31%.

Contraceptive practices before and after an intervention promoting condom use to prevent HIV infection and other sexually transmitted diseases among women—selected U.S. sites, 1993-1995. MMWR 1997;46:373-377

High Viral Load Correlates with Vertical Transmission of HIV

Researchers examining vertical HIV transmission found that HIV-infected women with an HIV RNA level greater than 10^5 /ml were 22 times more likely to transmit the virus to their infants than women with a viral load below that level. O. Coll, et al. also found that women in the study with lower CD4 counts and women who were sicker were also more likely to transmit HIV to their infants. The researchers concluded that the mother's viral load is most likely the major determinant for vertical transmission of HIV.

Vertical HIV-1 transmission correlates with a high maternal viral load at delivery. J Acquir Immune Defic Syndr Hum Retrovirol 1997;14:26-30

Independent Panel Reviews Studies of Transplacental Toxicity of AZT

The National Institutes of Health (NIH) convened an independent panel to review two studies in mice of the transplacental toxicity of AZT, summarize this technically complex information, and make recommendations for future research. Panel members included basic and clinical researchers, epidemiologists, HIV-infected women, and a bioethicist.

To date, the short-term side effects of AZT administered to pregnant women to reduce vertical transmission of HIV are limited to mild, reversible anemia in the infant. One of two studies in mice raises the concern that AZT may have a transplacental carcinogenic effect; however, the panel noted that very little is known about the reliability of the mouse model in predicting transplacental carcinogenicity in humans.

The panel unanimously concluded that the known benefits of AZT in preventing perinatal transmission of HIV appear to far outweigh the hypothetical risk raised by one study. They emphasized the need to discuss this theoretical risk with HIV-infected pregnant women and the need for careful long-term follow-up of all children exposed *in utero* to anti-retroviral therapy, including children not infected with HIV.

NIH press release, January 14, 1997

Office of AIDS Abstracts from the National Conference on Women & HIV

The third National Conference on Women and HIV, held in Los Angeles, CA May 4-7, 1997, published the following abstracts authored by California Department of Health Services, Office of AIDS researchers.

Elcock M, Araba-Owoyele L, Klein D, Zahnd E. HIV risk behaviors among urban and rural Native American women in California. Abstract 305.1.

Forquera J, Truax SR, Libet M, Norman A, Webb D. HIV risk factors in women accessing HIV testing sites in California, 1994-1996. Abstract P1.53.

Molitor F, Truax S, Ruiz JD, Sun RK. Association of methamphetamine use with risky sexual behaviors and STDs among heterosexual women at California HIV testing sites. Abstract 120.2.

Ruiz JD, Molitor F, Langrish P, et al. Door-to-door survey of HIV infection and risk behaviors among young women in five California counties. Abstract 220.1

Tabnak F, Sun RK. AIDS among women in California: 1986-1995. Abstract P1.7.

Tabnak F, Trevejo RT, Sun RK, Colford JM. *Pneumocystis carinii* pneumonia as an initial diagnosis among adult female AIDS patients reported in California, 1983-1993. Abstract P1.8.

Young B, Tabnak F, Sun R, Tager I. Social networks, access to community based services, and empowerment: implications for HIV infection in women. Abstract 223.1

Table 1. AIDS cases by age group, exposure category, and gender reported April 1, 1995 through March 31, 1996 and April 1, 1996 through March 31, 1997; and cumulative totals by age group through March 31, 1997 in California.

Adult/adolescent Exposure Category	Male		Female		Totals		Cumulative Total No. (%)
	Apr. 1995- Mar. 1996 No. (%)	Apr. 1996- Mar. 1997 No. (%)	Apr. 1995- Mar. 1996 No. (%)	Apr. 1996- Mar. 1997 No. (%)	Apr. 1995- Mar. 1996 No. (%)	Apr. 1996- Mar. 1997 No. (%)	
Homosexual/bisexual	6,662 (73)	5,493 (72)	-- (--)	-- (--)	6,662 (66)	5,493 (65)	72,322 (73)
IDU (heterosexual)	952 (10)	771 (10)	328 (35)	287 (35)	1,280 (13)	1,058 (13)	9,524 (10)
Homosexual/bisexual IDU	735 (8)	572 (7)	-- (--)	-- (--)	735 (7)	572 (7)	8,359 (8)
Lesbian/bisexual IDU	-- (--)	-- (--)	17 (2)	8 (1)	17 (--)	8 (--)	102 (--)
Coagulation Disorders	58 (1)	24 (--)	1 (--)	-- (--)	59 (1)	24 (--)	503 (1)
Heterosexual	165 (2)	137 (2)	451 (48)	336 (41)	616 (6)	473 (6)	3,628 (4)
Blood transfusion	47 (1)	40 (1)	42 (4)	29 (4)	89 (1)	69 (1)	1,496 (2)
Other/undetermined	461 (5)	598 (8)	108 (11)	159 (19)	569 (6)	757 (9)	3,434 (3)
Subtotal	9,080 (100)	7,635 (100)	947 (100)	819 (100)	10,027 (100)	8,454 (100)	99,368 (100)
Pediatric (<13 years old) Exposure Category	Apr. 1995- Mar. 1996 No. (%)	Apr. 1996- Mar. 1997 No. (%)	Apr. 1995- Mar. 1996 No. (%)	Apr. 1996- Mar. 1997 No. (%)	Apr. 1995- Mar. 1996 No. (%)	Apr. 1996- Mar. 1997 No. (%)	Cumulative Total No. (%)
Coagulation Disorders	1 (5)	1 (7)	-- (--)	-- (--)	1 (2)	1 (4)	29 (5)
Blood transfusion	2 (10)	-- (--)	-- (--)	-- (--)	2 (5)	-- (--)	110 (20)
Mother at risk: --IDU	6 (30)	2 (13)	8 (33)	1 (8)	14 (32)	3 (11)	140 (26)
--Sex with IDU	5 (25)	1 (7)	4 (17)	2 (17)	9 (20)	3 (11)	74 (14)
--Sex w/bisexual male	1 (5)	1 (7)	1 (4)	2 (17)	2 (5)	3 (11)	26 (5)
--Sex w/HIV infected	1 (5)	3 (20)	4 (17)	5 (42)	5 (11)	8 (30)	62 (11)
--Blood transfusion	1 (5)	-- (--)	3 (13)	1 (8)	4 (9)	1 (4)	20 (4)
--HIV infected	3 (15)	6 (40)	4 (17)	1 (8)	7 (16)	7 (26)	73 (14)
Other/undetermined	-- (--)	1 (7)	-- (--)	-- (--)	-- (--)	1 (4)	6 (1)
Subtotal	20 (100)	15 (100)	24 (100)	12 (100)	44 (100)	27 (100)	540 (100)
TOTAL	9,100	7,650	971	831	10,071	8,481	99,908

Table 2. AIDS cases by age group, exposure category, and race/ethnicity reported through March 31, 1997 in California.

Adult/adolescent Exposure Category	White No. (%)	Black No. (%)	Hispanic No. (%)	Asian/ Pacific Is. No. (%)	Native American No. (%)	Not Specified No. (%)	TOTAL No. (%)
Homosexual/bisexual	50,108 (80)	8,239 (51)	12,147 (67)	1,464 (75)	240 (58)	124 (74)	72,322 (73)
IDU (heterosexual)	3,600 (6)	3,889 (24)	1,879 (10)	77 (4)	63 (15)	16 (10)	9,524 (10)
Homosexual/bisexual IDU	5,428 (9)	1,545 (10)	1,242 (7)	65 (3)	74 (18)	5 (3)	8,359 (8)
Lesbian/bisexual IDU	42 (--)	35 (--)	20 (--)	1 (--)	4 (1)	-- (--)	102 (--)
Coagulation Disorders	340 (1)	40 (--)	96 (1)	22 (1)	1 (--)	4 (2)	503 (1)
Heterosexual	1,365 (2)	1,127 (7)	1,008 (6)	109 (6)	16 (4)	3 (2)	3,628 (4)
Blood transfusion	883 (1)	165 (1)	336 (2)	106 (5)	2 (--)	4 (2)	1,496 (2)
Other/undetermined	1,027 (2)	962 (6)	1,317 (7)	103 (5)	13 (3)	12 (7)	3,434 (3)
Subtotal	62,793 (100)	16,002 (100)	18,045 (100)	1,947 (100)	413 (100)	168 (100)	99,368 (100)
Pediatric (<13 years old) Exposure Category	White No. (%)	Black No. (%)	Hispanic No. (%)	Asian/ Pacific Is. No. (%)	Native American No. (%)	Not Specified No. (%)	TOTAL No. (%)
Coagulation Disorders	16 (10)	1 (1)	10 (5)	2 (13)	-- (--)	-- (--)	29 (5)
Blood transfusion	40 (25)	23 (14)	40 (21)	7 (47)	-- (--)	-- (--)	110 (20)
Mother at risk: --IDU	50 (31)	66 (40)	20 (10)	-- (--)	4 (80)	-- (--)	140 (26)
--sex with IDU	17 (11)	19 (11)	36 (19)	1 (7)	1 (20)	-- (--)	74 (14)
--sex with bisexual male	8 (5)	4 (2)	13 (7)	1 (7)	-- (--)	-- (--)	26 (5)
--sex w/HIV infected	9 (6)	13 (8)	36 (19)	3 (20)	-- (--)	1 (100)	62 (11)
--blood transfusion	7 (4)	3 (2)	10 (5)	-- (--)	-- (--)	-- (--)	20 (4)
--HIV infected	13 (8)	36 (22)	23 (12)	1 (7)	-- (--)	-- (--)	73 (14)
Other/undetermined	1 (1)	1 (1)	4 (2)	-- (--)	-- (--)	-- (--)	6 (1)
Subtotal	161 (100)	166 (100)	192 (100)	15 (100)	5 (100)	1 (100)	540 (100)
TOTAL	62,954	16,168	18,237	1,962	418	169	99,908

Table 3. Adult/adolescent AIDS cases by gender, exposure category, and race/ethnicity, reported through March 31, 1997 in California.

Male Exposure Category	White No. (%)	Black No. (%)	Hispanic No. (%)	Asian/Pacific Is. No. (%)	Native American No. (%)	Not Specified No. (%)	TOTAL No. (%)
Homosexual/bisexual	50,108 (83)	8,239 (60)	12,147 (73)	1,464 (83)	240 (65)	124 (77)	72,322 (78)
IDU (heterosexual)	2,676 (4)	2,815 (20)	1,553 (9)	52 (3)	39 (11)	11 (7)	7,146 (8)
Homosexual/bisexual IDU	5,428 (9)	1,545 (11)	1,242 (7)	65 (4)	74 (20)	5 (3)	8,359 (9)
Coagulation Disorders	326 (1)	38 (--)	94 (1)	22 (1)	1 (--)	4 (2)	485 (1)
Heterosexual	363 (1)	333 (2)	302 (2)	21 (1)	5 (1)	3 (2)	1,027 (1)
Blood transfusion	564 (1)	80 (1)	157 (1)	59 (3)	1 (--)	3 (2)	864 (1)
Other/undetermined	854 (1)	734 (5)	1,155 (7)	83 (5)	8 (2)	12 (7)	2,846 (3)
Subtotal	60,319 (100)	13,784 (100)	16,650 (100)	1,766 (100)	368 (100)	162 (100)	93,049 (100)
Female Exposure Category	White No. (%)	Black No. (%)	Hispanic No. (%)	Asian/Pacific Is. No. (%)	Native American No. (%)	Not Specified No. (%)	TOTAL No. (%)
IDU	924 (37)	1,074 (48)	326 (23)	25 (14)	24 (53)	5 (83)	2,378 (38)
Lesbian/bisexual IDU	42 (2)	35 (2)	20 (1)	1 (1)	4 (9)	-- (--)	102 (2)
Coagulation Disorders	14 (1)	2 (--)	2 (--)	-- (--)	-- (--)	-- (--)	18 (--)
Heterosexual	1,002 (41)	794 (36)	706 (51)	88 (49)	11 (24)	-- (--)	2,601 (41)
Blood transfusion	319 (13)	85 (4)	179 (13)	47 (26)	1 (2)	1 (17)	632 (10)
Other/undetermined	173 (7)	228 (10)	162 (12)	20 (11)	5 (11)	-- (--)	588 (9)
Subtotal	2,474 (100)	2,218 (100)	1,395 (100)	181 (100)	45 (100)	6 (100)	6,319 (100)
TOTAL	62,793	16,002	18,045	1,947	413	168	99,368

Table 4. AIDS cases in adolescents and adults under age 25, by exposure category reported April 1, 1995 through March 31, 1996 and April 1, 1996 through March 31, 1997; and cumulative totals by age group through March 31, 1997 in California.

Exposure Category	13-19 years old			20-24 years old		
	Apr. 1995- Mar. 1996 No. (%)	Apr. 1996- Mar. 1997 No. (%)	Cumulative Total No. (%)	Apr. 1995- Mar. 1996 No. (%)	Apr. 1996- Mar. 1997 No. (%)	Cumulative Total No. (%)
Homosexual/bisexual	10 (29)	13 (46)	88 (32)	180 (60)	143 (62)	1,785 (62)
IDU (heterosexual)	2 (6)	-- (--)	8 (3)	25 (8)	18 (8)	273 (9)
Homosexual/bisexual IDU	-- (--)	1 (4)	11 (4)	19 (6)	12 (5)	341 (12)
Lesbian/bisexual IDU	-- (--)	-- (--)	-- (--)	1 (--)	-- (--)	5 (--)
Coagulation Disorders	7 (21)	3 (11)	73 (27)	11 (4)	3 (1)	62 (2)
Heterosexual	10 (29)	4 (14)	38 (14)	37 (12)	20 (9)	244 (8)
Blood transfusion	2 (6)	4 (14)	39 (14)	1 (--)	2 (1)	36 (1)
Other/undetermined	3 (9)	3 (11)	17 (6)	27 (9)	33 (14)	147 (5)
TOTAL	34 (100)	28 (100)	274 (100)	301 (100)	231 (100)	2,893 (100)

Table 5. AIDS cases by gender, age at diagnosis, and race/ethnicity, reported through March 31, 1997 in California.

Male Age at Diagnosis-- Years	White No. (%)	Black No. (%)	Hispanic No. (%)	Asian/ Pacific Is. No. (%)	Native American No. (%)	Not Specified No. (%)	TOTAL No. (%)
0-4	46 (--)	61 (--)	66 (--)	4 (--)	2 (1)	-- (--)	179 (--)
5-12	38 (--)	26 (--)	34 (--)	4 (--)	-- (--)	-- (--)	102 (--)
13-19	71 (--)	31 (--)	96 (1)	8 (--)	2 (1)	-- (--)	208 (--)
20-24	1,197 (2)	416 (3)	826 (5)	54 (3)	12 (3)	6 (4)	2,511 (3)
25-29	6,695 (11)	1,828 (13)	3,103 (19)	232 (13)	71 (19)	26 (16)	11,955 (13)
30-34	13,360 (22)	3,169 (23)	4,253 (25)	390 (22)	105 (28)	32 (20)	21,309 (23)
35-39	13,826 (23)	3,183 (23)	3,462 (21)	387 (22)	90 (24)	39 (24)	20,987 (22)
40-44	10,714 (18)	2,340 (17)	2,290 (14)	327 (18)	43 (12)	26 (16)	15,740 (17)
45-49	6,704 (11)	1,348 (10)	1,198 (7)	187 (11)	21 (6)	13 (8)	9,471 (10)
50-54	3,734 (6)	744 (5)	666 (4)	78 (4)	10 (3)	8 (5)	5,240 (6)
55-59	2,059 (3)	383 (3)	398 (2)	55 (3)	9 (2)	8 (5)	2,912 (3)
60-64	1,101 (2)	205 (1)	203 (1)	23 (1)	3 (1)	1 (1)	1,536 (2)
65 or older	858 (1)	137 (1)	155 (1)	25 (1)	2 (1)	3 (2)	1,180 (1)
Subtotal	60,403 (100)	13,871 (100)	16,750 (100)	1,774 (100)	370 (100)	162 (100)	93,330 (100)
Female Age at Diagnosis-- Years	White No. (%)	Black No. (%)	Hispanic No. (%)	Asian/ Pacific Is. No. (%)	Native American No. (%)	Not Specified No. (%)	TOTAL No. (%)
0-4	51 (2)	64 (3)	74 (5)	4 (2)	3 (6)	1 (14)	197 (3)
5-12	26 (1)	15 (1)	18 (1)	3 (2)	-- (--)	-- (--)	62 (1)
13-19	22 (1)	21 (1)	20 (1)	3 (2)	-- (--)	-- (--)	66 (1)
20-24	129 (5)	117 (5)	127 (9)	6 (3)	3 (6)	-- (--)	382 (6)
25-29	371 (15)	307 (13)	271 (18)	22 (12)	8 (17)	-- (--)	979 (15)
30-34	544 (21)	457 (20)	287 (19)	26 (14)	12 (25)	2 (29)	1,328 (20)
35-39	445 (17)	503 (22)	251 (17)	42 (22)	8 (17)	1 (14)	1,250 (19)
40-44	344 (13)	371 (16)	177 (12)	20 (11)	5 (10)	1 (14)	918 (14)
45-49	224 (9)	224 (10)	95 (6)	23 (12)	3 (6)	1 (14)	570 (9)
50-54	108 (4)	87 (4)	63 (4)	12 (6)	4 (8)	-- (--)	274 (4)
55-59	66 (3)	70 (3)	51 (3)	9 (5)	1 (2)	-- (--)	197 (3)
60-64	65 (3)	32 (1)	27 (2)	7 (4)	-- (--)	-- (--)	131 (2)
65 or older	156 (6)	29 (1)	26 (2)	11 (6)	1 (2)	1 (14)	224 (3)
Subtotal	2,551 (100)	2,297 (100)	1,487 (100)	188 (100)	48 (100)	7 (100)	6,578 (100)
TOTAL	62,954	16,168	18,237	1,962	418	169	99,908

Table 6. AIDS cases, deaths, and case-fatality rates by half-year of diagnosis through March 31, 1997 in California.

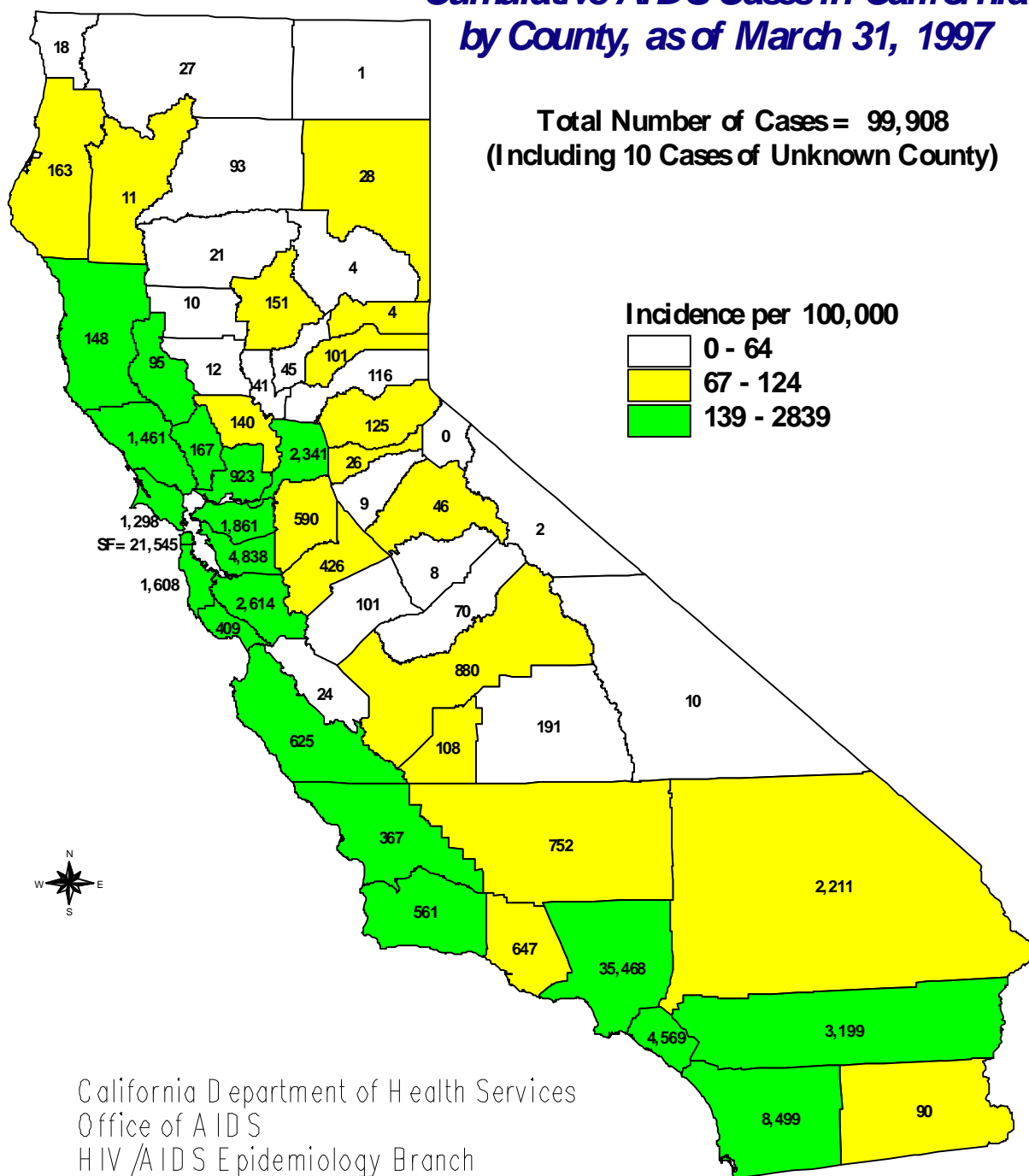
Half-Year of Diagnosis	Number of Cases	Number of Deaths	Case Fatality Rate
Before 1983	300	285	95%
1983 Jan-June	296	286	97%
July-Dec	411	394	96%
1984 Jan-June	588	569	97%
July-Dec	816	783	96%
1985 Jan-June	1,155	1,115	97%
July-Dec	1,421	1,361	96%
1986 Jan-June	1,829	1,763	96%
July-Dec	2,230	2,127	95%
1987 Jan-June	2,744	2,615	95%
July-Dec	2,881	2,701	94%
1988 Jan-June	3,252	3,024	93%
July-Dec	3,351	3,045	91%
1989 Jan-June	3,946	3,514	89%
July-Dec	3,870	3,408	88%
1990 Jan-June	4,463	3,796	85%
July-Dec	4,404	3,711	84%
1991 Jan-June	5,241	4,212	80%
July-Dec	6,068	4,653	77%
1992 Jan-June	6,459	4,496	70%
July-Dec	6,356	4,082	64%
1993 Jan-June	6,438	3,587	56%
July-Dec	5,625	2,645	47%
1994 Jan-June	5,467	2,132	39%
July-Dec	4,723	1,426	30%
1995 Jan-June	4,870	1,093	22%
July-Dec	4,044	669	17%
1996 Jan-June	3,717	433	12%
July-Dec	2,494	202	8%
1997 Jan-Mar	449	10	2%
TOTAL	99,908	64,137	64%

Table 7. AIDS Cases and Cumulative Incidence 1981 through March 31, 1997 in California.

County	AIDS Cases	Deaths	Case Fatality Rate (%)	Incidence Per 100,000	County	AIDS Cases	Deaths	Case Fatality Rate (%)	Incidence Per 100,000
Alameda	4,838	3,079	63.6%	347.28	Orange	4,569	2,635	57.7%	168.43
Berkeley	462	309	66.9%	440.42	Placer	116	59	50.9%	53.10
Alpine	--	--	--	--	Plumas	4	3	75.0%	18.33
Amador	26	17	65.4%	78.29	Riverside	3,199	1,712	53.5%	206.19
Butte	151	104	68.9%	74.08	Sacramento	2,341	1,563	66.8%	192.51
Calaveras	9	5	55.6%	20.56	San Benito	24	10	41.7%	54.12
Colusa	12	11	91.7%	62.38	San Bernardino	2,211	1,277	57.8%	124.25
Contra Costa	1,861	1,194	64.2%	204.60	San Diego	8,499	5,237	61.6%	311.78
Del Norte	18	9	50.0%	58.33	San Francisco	21,545	15,026	69.7%	2,838.70
El Dorado	125	82	65.6%	79.39	San Joaquin	590	384	65.1%	105.07
Fresno	880	549	62.4%	106.33	San Luis Obispo	367	178	48.5%	158.69
Glenn	10	6	60.0%	35.08	San Mateo	1,608	990	61.6%	226.16
Humboldt	163	97	59.5%	123.84	Santa Barbara	561	401	71.5%	140.98
Imperial	90	44	48.9%	67.18	Santa Clara	2,614	1,601	61.2%	160.38
Inyo	10	7	70.0%	51.26	Santa Cruz	409	251	61.4%	169.74
Kern	752	355	47.2%	110.64	Shasta	93	75	80.6%	52.31
Kings	108	53	49.1%	95.61	Sierra	4	4	100.0%	119.40
Lake	95	54	56.8%	154.72	Siskiyou	27	15	55.6%	57.49
Lassen	28	11	39.3%	104.26	Solano	923	529	57.3%	222.25
Los Angeles	35,468	23,157	65.3%	368.06	Sonoma	1,461	916	62.7%	331.97
Long Beach	3,094	1,959	63.3%	706.72	Stanislaus	426	260	61.0%	94.07
Pasadena	547	341	62.3%	406.99	Sutter	41	26	63.4%	51.62
Madera	70	41	58.6%	62.08	Tehama	21	11	52.4%	35.65
Marin	1,298	698	53.8%	537.77	Trinity	11	8	72.7%	77.64
Mariposa	8	3	37.5%	44.95	Tulare	191	132	69.1%	50.39
Mendocino	148	105	70.9%	163.10	Tuolumne	46	29	63.0%	82.09
Merced	101	63	62.4%	47.10	Ventura	647	410	63.4%	87.84
Modoc	1	1	100.0%	9.23	Yolo	140	86	61.4%	88.20
Mono	2	1	50.0%	18.48	Yuba	45	28	62.2%	64.49
Monterey	625	379	60.6%	164.27	Unknown	10	3	30.0%	
Napa	167	104	62.3%	138.52					
Nevada	101	49	48.5%	104.88					
					TOTAL	99,908	64,137	64.2%	297.01

Cumulative AIDS Cases in California by County, as of March 31, 1997

Total Number of Cases = 99,908
(Including 10 Cases of Unknown County)



MEETINGS/ANNOUNCEMENTS

June 12 and 26, 1997 HIV/AIDS Home Care Symposium, San Francisco, CA. Sponsored by the Pacific AIDS Education and Training Center, University of California, San Francisco School of Nursing, Hospital Consortium Education Network. For more information, contact HCEN, 1600 Trousdale Dr., Burlingame, CA 94010.

September 3-5, 1997 HIV Issues, Substance Abuse, and Men Who Have Sex with Men, the University of Washington, Seattle, WA. Sponsored by the Centers for Disease Control and Prevention, the National Institute on Drug Abuse, and the University of Washington Alcohol and Drug Abuse Institute. For more information, contact Michael Gorman, Alcohol and Drug Institute, University of Washington, 3937 15th Ave. NE, Seattle, WA 98105, 206-543-8962 (phone), 206-543-5473 (fax), or emg@u.washington.edu.

September 25-27, 1997 4th Western Regional HIV, AIDS & Women Conference, La Jolla Marriott, San Diego, CA. Sponsored by the University of California, San Diego School of Medicine. For more information, contact the Office of Continuing Medical Education, 619-534-3940 (phone) or 619-534-7672 (fax).

November 9-12, 1997 National AIDS Treatment Advocates Forum, The Handerly Hotel, San Diego, CA. Sponsored by the National Minority AIDS Council (NMAC). For more information, contact the NMAC, 1931 13th St. NW, Washington, D.C. 20009, 202-483-6622.

June 28 - July 3, 1998 12th World AIDS Conference, Geneva, Switzerland. Sponsored by the International AIDS Society. For more information contact C/o Congrex(Sweden)AB, P. O. Box 5619, S-114 86 Stockholm, Sweden, +46 8 612 69 00 (phone) +46 8 612 62 92 (fax), aids98@congrex.se (email) or <http://www.aids98.ch> (Internet).

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